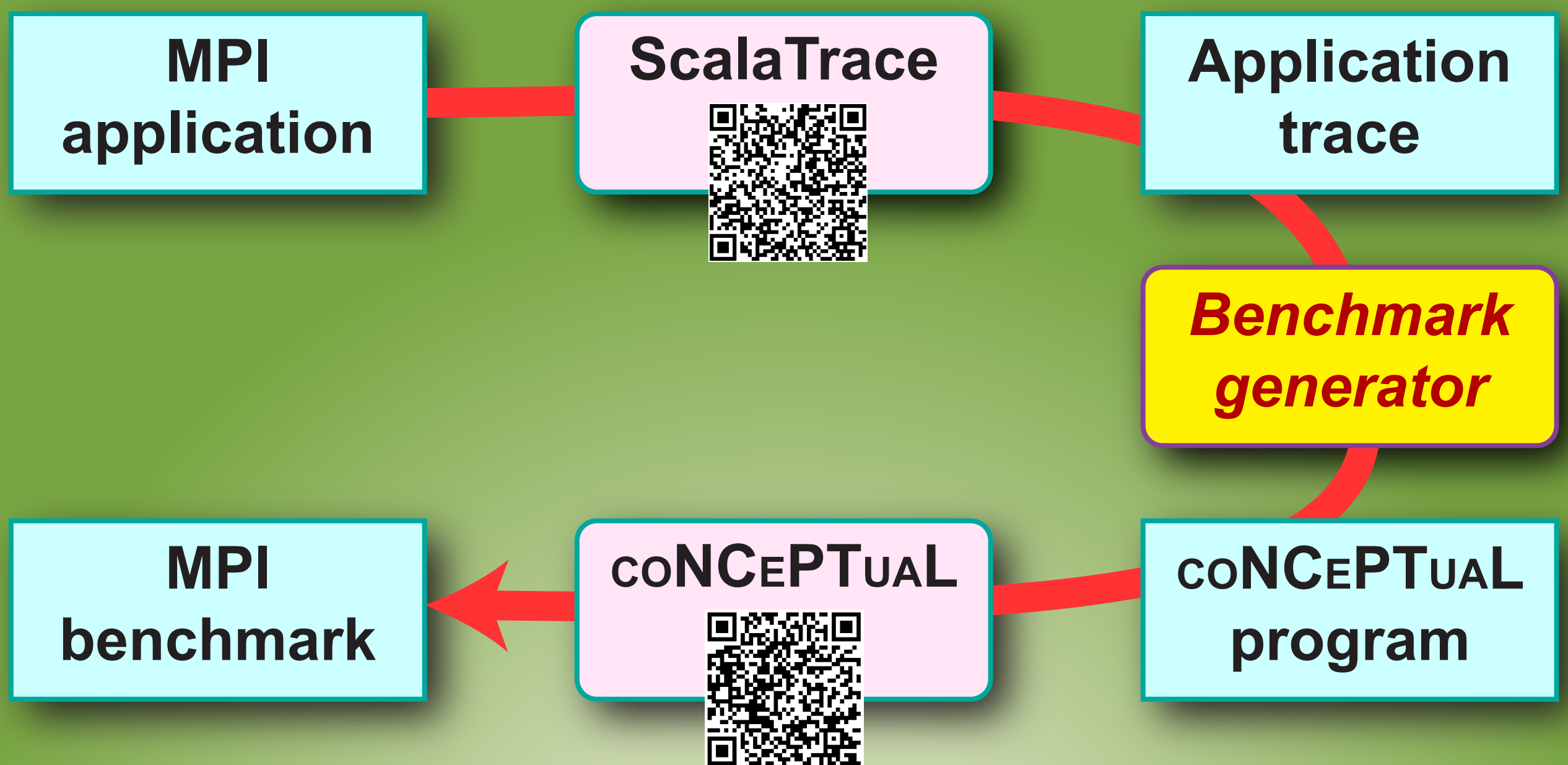


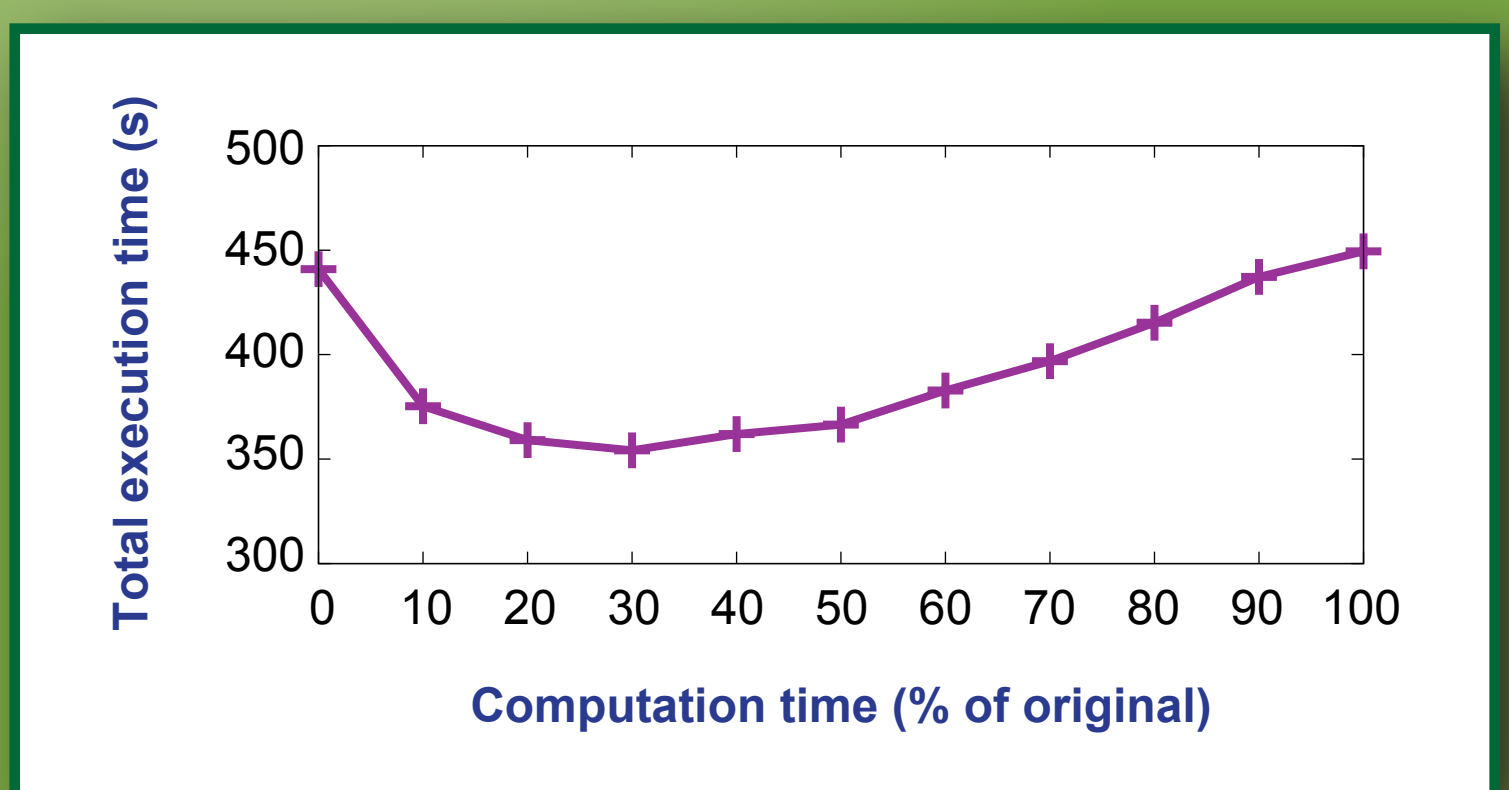
# Automatic Conversion of Applications to Benchmarks



- 🔍 **Goal:** Produce simpler, physics-free program variant to facilitate experimentation and sharing.
- 🔍 Generated benchmark is human-readable and human-editable.
- 🔍 Original communication pattern and performance characteristics are retained.

**Example:** How fast would NAS BT run if computation time were reduced?

**Answer:** Up to 21% faster for a 70% reduction, but *no faster* for an infinite reduction (due to network backlog).



Xing Wu, Frank Mueller, and Scott Pakin. *Automatic Generation of Executable Communication Specifications from Parallel Applications*. In Proceedings of the 25th International Conference on Supercomputing (ICS 2011), Tucson, Arizona, May 2011. **Nominated for Best Paper Award.**

